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PLANTS
IN
NEW ZEALAND
POISONOUS
TO MAN

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PLANTS IN NEW ZEALAND POISONOUS TO MAN

by

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DEPARTMENT OF HEALTH
WELLINGTON, NEW ZEALAND, 1971

The following notes are not exhaustive or to be regarded as particularly authoritative. The literature available indicates that the treatment of many cases of plant poisoning has to be symptomatic, because specific antidotes to many poisons are not known. Also the toxic principles of some plants have not yet been identified. Since, however, few practitioners have much experience of plant poisoning, they may find these notes at least a guide.

**The Department will welcome any suggestions in connection
with the form or content of this publication**

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GLOSSARY OF TERMS USED

Compound: Leaves consisting of two or more leaflets.

Drupe: A fruit of three layers:

- (a) An outer skin
 - (b) A fleshy layer
 - (c) A hard inner layer
- e.g.*, a plum.

Deciduous: Shedding leaves in winter.

Glabrous: Smooth (without hairs).

Herbaceous: Non-woody.

Ovate: Egg-shaped in outline.

Ovoid: A solid that is egg-shaped.

Rhizome: A spreading underground stem.

Sp. or spp.: Species.

Spatulate: Oblong, with drawn out base.

Stipular: Growing from the leaf base.

Toothed: Serrated edged.

FOREWORD

We have many poisonous plants in New Zealand. Those developing berries and fruits are attractive to little children. They are tempted and often risk death. The poison lurks not only in the berries. Flowers, leaves, and even bark may be toxic, and children will try eating all these. Mrs J. P. Stewart, a former Health Education Officer for the Department of Health, gathered together, in handy form, the information in this pamphlet. The publication is made in the earnest hope parents will find its guidance helpful in avoiding risks to children from toxic plants.

A handwritten signature in black ink, reading "D. P. Kennedy." with a stylized flourish at the end.

DIRECTOR-GENERAL OF HEALTH

ACKNOWLEDGMENTS AND REFERENCES

The assistance of Mr A. Esler, Massey University, the M.U. library staff, the Botany Division, D.S.I.R., Christchurch, the staff of Head Office, Department of Health, and of the photographic section of the Department of Agriculture, Head Office, Wellington, is acknowledged.

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INTRODUCTION

In New Zealand there are some 50 or more plants known to be toxic to man when eaten. Although some of these are rare, it is still as well to know of them, as children will often eat the berries, flowers, leaves, even the bark, of most plants. As well as plants being toxic when eaten, there are many which are touch irritants, causing a rash, or even eczema. The most common of these are also dealt with.

Children should be warned that if any plant, flower, or berry tastes bitter, or makes the lips and mouth burn, they should spit it out immediately, NEVER swallow it.

IF POISONING OCCURS OR IS SUSPECTED:

1. Make the patient vomit. Salt or mustard in water (one dessert-spoonful in a glass of water) will induce vomiting. If this does not bring vomiting, then place a finger well down the throat.
2. *Get Medical Care.* Call the nearest doctor, or take the patient to a hospital at once. Take a piece of the plant with you. If possible, save the vomit for examination by the doctor and hospital.
3. *If breathing stops apply mouth-to-nose resuscitation.*

Part I

PLANTS TOXIC WHEN EATEN BY MAN

ARUM

BOTANICAL NAME: *Zantedeschia aethiopica*.

This is usually called "Arum lily", but is not a true lily.

DESCRIPTION: Leaves and stalks fleshy. The flower consists of a white petal-like sheath (spathe) surrounding a yellow-tipped spike bearing the florets. Others of this family have various coloured spathes, while *Arum italicum* has conspicuous orange berries on a stalk after the leaves die back in the autumn. *Arum maculatum* is a common weed, with red berries. Commonly called "Lords and Ladies". Others of the Araceae which are possibly poisonous are CALADIUM, ALOCASIA, PHILODENDRON, DRACUNCULUS.



Arum

TOXIC PRINCIPLE: An acrid juice which is a simple irritant.

SYMPTOMS: Burning pain in mouth, throat, and stomach, thirst, nausea, vomiting, diarrhoea. Death can occur through shock, convulsions, exhaustion.

ACONITE

COMMON NAME: *Monkshood*.

BOTANICAL NAME: *Aconitum napellus*.



Aconitum fischerii

DESCRIPTION: Herbaceous perennial. Tuberous root. Dull green leaves. Blue flowers spaced up stalks. Grown fairly commonly as a garden plant. Roots look like horse radish and are sometimes eaten by mistake.

POISONOUS PARTS: All parts, but especially the roots and seeds.

TOXIC PRINCIPLE: Aconitine.

SYMPTOMS: Tingling or burning sensation of the mouth and skin. Nausea, vomiting, diarrhoea, restlessness, weak pulse, convulsions, delirium.

APPLE OF SODOM

BOTANICAL NAME: *Solanum sodomaeum*.

DESCRIPTION: Shrub, with prickly stems and leaves. Leaves lobed. Flowers violet. Berries white with green stripes, turning yellow when ripe. Occurs as a weed in the Auckland district and occasionally further south.

POISONOUS PARTS: Fruit.

TOXIC PRINCIPLE: Solasonine.

SYMPTOMS: Abdominal pain, nausea, vomiting, diarrhoea, dizziness, dryness of mouth, dilated pupils.

APRICOT

BOTANICAL NAME: *Prunus armeniaca*.

DESCRIPTION: A cultivated fruit tree. Pale pink flowers, fruit green, turning golden-pink when ripe.

POISONOUS PARTS: Raw kernels of the fruit. (NOTE: These kernels lose their toxic properties when cooked.)

TOXIC PRINCIPLE: Prussic acid.

SYMPTOMS: Tingling or burning sensation of the mouth and skin, nausea, vomiting, diarrhoea, restlessness, weak pulse, convulsions.

BEECH (European)

BOTANICAL NAME: *Fagus sylvatica*.

DESCRIPTION: Large tree. Smooth grey bark. Reddish-brown spindle-shaped buds. Leaves smooth, broad oval, pointed tip, rounded base, with short hairs on margins and veins. Flowers in tassel-like heads. Nuts, three-sided, brown.

POISONOUS PARTS: Seeds.

TOXIC PRINCIPLE: Not known.

SYMPTOMS: Nausea, vomiting, diarrhoea, and weakness.

BITTERSWEET

BOTANICAL NAME: *Solanum dulcamara*.

DESCRIPTION: A shrubby climber, which grows through hedges in some semi-swampy areas. Some variegated forms are cultivated. Leaves have three oval leaflets each 1 to 3 in. long. Flowers in drooping clusters, $\frac{1}{2}$ in. in diameter, white and violet. Fruit ovoid, red, or occasionally yellowish-green.

POISONOUS PARTS: All parts, particularly berries.

TOXIC PRINCIPLE: Solasonine.

SYMPTOMS: Headache, nausea, vomiting, and diarrhoea, dryness of mouth, dilated pupils. Can cause paralysis and heart disturbances if eaten in large amounts.

BOX

BOTANICAL NAME: *Buxus sempervirens*.

DESCRIPTION: Small evergreen shrub. Leaves small and oval, darkish green.

POISONOUS PARTS: Leaves and bark.

TOXIC PRINCIPLE: Buxine, buxidine.

SYMPTOMS: Vomiting, diarrhoea, abdominal pains, and convulsions.

BOXTHORN (African)

BOTANICAL NAME: *Lycium ferocissimum*.

DESCRIPTION: A shrub often grown as a hedge plant, branches ending in a stout spine. Leaves small, clustered. Flowers whitish, produced singly or in pairs. Berries scarlet.

POISONOUS PARTS: Berries.

TOXIC PRINCIPLE: A narcotic.

SYMPTOMS: Nausea, vomiting, slowing of heart action, reduction in muscle power, difficulty in breathing, unconsciousness.

BUTTERCUP (celery leaved)

BOTANICAL NAME: *Ranunculus sceleratus*.

DESCRIPTION: Herb growing in damp places. Stems stout, erect and hollow, green and finely grooved. Leaves mid-green and shaped like those of celery. Flowers small, clear, golden-yellow.

POISONOUS PARTS: Leaves and flowers.

TOXIC PRINCIPLE: Ranunculin.

SYMPTOMS: Abdominal pains, nausea, vomiting, slowing of pulse.

CALICO BUSH (sometimes called MOUNTAIN LAUREL)

BOTANICAL NAME: *Kalmia latifolia*.

DESCRIPTION: Evergreen flowering shrub. Leaves pointed and stiff. Flowers in clusters; cup shaped; petals pink, pointed at tip. Common garden shrub.



Kalmia latifolia

POISONOUS PARTS: All parts.

TOXIC PRINCIPLE: Not known.

SYMPTOMS: Salivation, running of eyes and nose, vomiting, convulsions, slowing of pulse, lowering of blood pressure, and paralysis.

CAPE IVY

BOTANICAL NAME: *Senecio mikanoides*.

DESCRIPTION: A glabrous climber. Leaves ivy-shaped, yellow-green. Flowers yellow and daisy-like but without rays. A weed which grows freely, flowering, and making maximum growth, in winter.

POISONOUS PARTS: All parts.

TOXIC PRINCIPLE: Mikanoidine.

SYMPTOMS: Dullness and depression with some loss of muscle control.

CAPE TULIP

BOTANICAL NAME: *Homeria breyniana*.

DESCRIPTION: Grows from a fibrous bulb. One strap-like leaf, up to 3 ft long, per bulb. Flowers lemon or salmon coloured, appearing in spring and opening consecutively up the stem. An attractive plant often cultivated in gardens. Sometimes spreads rapidly, if neglected.

POISONOUS PARTS: All parts, even when dead and dry.

TOXIC PRINCIPLE: Not known.

SYMPTOMS: Acute vomiting and diarrhoea, depression, dullness, and weakness.

These plants should be burnt.



Cape tulip

CASTOR-OIL PLANT

BOTANICAL NAME: *Ricinus communis*.

DESCRIPTION: Tall, spreading shrub, cultivated as an ornamental annual. Leaves five-lobed, rich plum colour. Flowers small and similar colour. Seed pods deep red and spiked all over.

POISONOUS PARTS: Seeds.

TOXIC PRINCIPLE: Ricin, ricinone.

SYMPTOMS: After a delay of one to three days, nausea, vomiting, diarrhoea, abdominal pain, drowsiness, and stupor.

CESTRUM

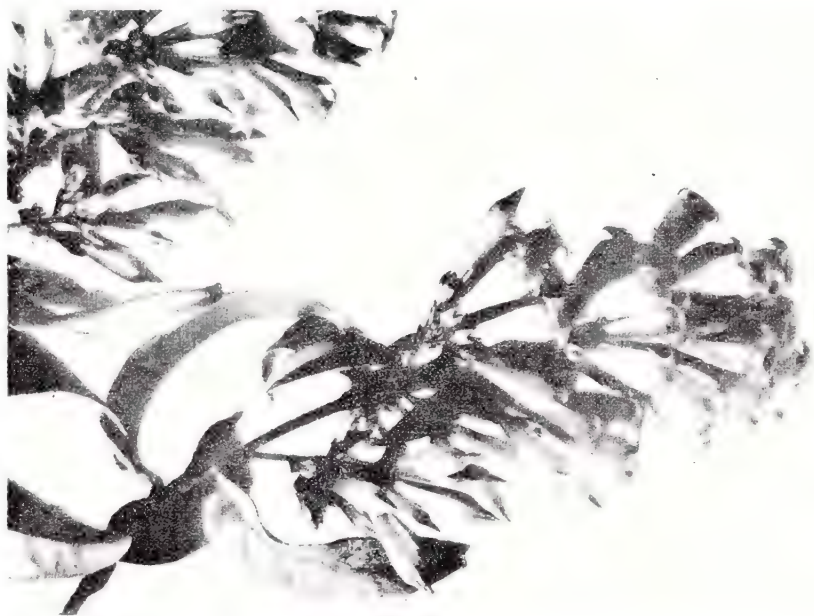
BOTANICAL NAME: *Cestrum* spp.

DESCRIPTION: Tall shrub. Leaf with slightly furry surface, flowers tubular, red, yellow, greenish, or white. Fruit reddish to blackish berry.

POISONOUS PARTS: All parts.

TOXIC PRINCIPLE: Parquine.

SYMPTOMS: Acute abdominal pain and congestion.



Cestrum

CHERRY

BOTANICAL NAME: *Prunus* spp.

DESCRIPTION: Small, flowering ornamental tree.

POISONOUS PARTS: Seed.

TOXIC PRINCIPLE: Prussic acid.

SYMPTOMS: Stupor. Vocal cord paralysis, twitching, convulsions, and coma.

CHERRY LAUREL

BOTANICAL NAME: *Prunus laurocerasus*.

DESCRIPTION: Evergreen bush, sometimes a small tree. Leaves dark green, usually remotely small-toothed, 3 to 6 in. long. Flowers white and highly scented. Fruit a purple-black, pointed, conic drupe about $\frac{1}{2}$ in. long. Cultivated as a hedge plant.

POISONOUS PARTS: Leaves.

TOXIC PRINCIPLE: Amygdalin.

SYMPTOMS: Acute gastro-intestinal upset, and convulsions. Difficulty in breathing, loss of balance.

DAFFODIL

BOTANICAL NAME: *Narcissus* spp.

DESCRIPTION: This includes jonquils, daffodils, and other narcissus species.

POISONOUS PARTS: Bulb.

TOXIC PRINCIPLE: Narcissine.

SYMPTOMS: Nausea, vomiting, diarrhoea.

DAPHNE

BOTANICAL NAME: *Daphne* spp.

DESCRIPTION: Low-growing flowering shrub. Leaves mid-green. Flowers white to pink, in clusters. Sweet-smelling. Garden shrub.

POISONOUS PARTS: All parts.

TOXIC PRINCIPLE: Mezerin.

SYMPTOMS: Abdominal pain, vomiting, diarrhoea, weakness, convulsions, kidney damage.

FALSE ACACIA

BOTANICAL NAME: *Robinia pseudoacacia*.

DESCRIPTION: A cultivated tree, with stipular spines on the twigs and young branches. Compound leaves. Flowers white, fruit a pod.

POISONOUS PARTS: Inner bark.

TOXIC PRINCIPLE: Robin.

SYMPTOMS: Nausea, vomiting, diarrhoea, drowsiness, and stupor.

FOXGLOVE

BOTANICAL NAME: *Digitalis purpurea*.

DESCRIPTION: Biennial. Leaves soft green, in low spreading clump. Erect stems up to 3 ft tall, with bell-shaped flowers spaced up stems. Flowers purple or white and intermediate colours. Grows mainly on waste land.

POISONOUS PARTS: Leaves and seeds.

TOXIC PRINCIPLE: Digitalin, digitoxin.

SYMPTOMS: Headache, nausea, vomiting, diarrhoea, yellow vision, slow pulse.

HEKETARA

BOTANICAL NAME: *Olearia rani*.

MAORI NAME: Heketara or Wharangipiro.

DESCRIPTION: Shrub or small tree, 8 to 25 ft high. Branches and under-surface of leaves have white or buff matted hairs. Leaves 2 to 6 in. long, ovate to oblong, rounded or narrowed at base, edges coarsely serrated.

POISONOUS PARTS: Gum.

TOXIC PRINCIPLE: Not known.

SYMPTOMS: Abdominal pain, vomiting, loss of coordination.

HELLEBORE (winter rose)

BOTANICAL NAME: *Helleborus niger*.

DESCRIPTION: Evergreen perennial. Leaves five-fingered, dark green, serrated edges. Flowers cup-shaped, white to deep pink and lavender, some spotted with carmine. Garden plant.

POISONOUS PARTS: All parts.

TOXIC PRINCIPLE: Jervine, hellaborin.

SYMPTOMS: Tingling or burning sensation of mouth and skin, nausea, vomiting, diarrhoea, restlessness, weak pulse, convulsions.

HEMLOCK

BOTANICAL NAME: *Conium maculatum*.

DESCRIPTION: Herb. Evil smelling. Stems up to 6 ft high, green and flecked or spotted with purple. Stem hollow. Leaves fernlike, clear green. Flowers white.

POISONOUS PARTS: All parts, even when dead and dry.

TOXIC PRINCIPLE: Coniine, coniceine.

SYMPTOMS: General and gradual weakening of muscular power, sometimes loss of sight, paralysis, vomiting, loss of balance, abdominal pain, sometimes delirium.



Hemlock

HENBANE

BOTANICAL NAME: *Hyoscyamus niger*.

DESCRIPTION: Annual herb, sticky, evil smelling. Leaves toothed, flowers yellow with purple veins.

POISONOUS PARTS: Seeds and fruits.

TOXIC PRINCIPLE: Hyoscyamine, hyoscine.

SYMPTOMS: Headache, nausea, loss of balance, burning sensation of skin, dilated pupils, difficulty in breathing, thirst, dryness of mouth, delirium.

HOLLY

BOTANICAL NAME: *Ilex* spp.

DESCRIPTION: Small trees. Leaves dark glossy green or variegated, thorny and very stiff. Berries yellow or red.

POISONOUS PARTS: Berries of several of the species.

TOXIC PRINCIPLE: Caffeine.

SYMPTOMS: Vomiting, diarrhoea, excitement.

HORSE CHESTNUT

BOTANICAL NAME: *Aesculus hippocastanum*.

DESCRIPTION: Cultivated deciduous tree. Compound leaves. Flowers pink or white in candle-shaped erect clusters. Fruit a prickly capsule, with chestnut-like seed.

POISONOUS PARTS: Seeds.

TOXIC PRINCIPLE: Aesculin.

SYMPTOMS: Nausea, vomiting, diarrhoea, weakness, and paralysis.

INKWEED

BOTANICAL NAME: *Phytolacca octandra*.

DESCRIPTION: Mainly a North Island weed. Soft plant up to 6 ft high becoming woody with age. Pointed leaves, dense flower spike, berry-like fruits reddish black.

POISONOUS PARTS: Berries, leaves, and root.

TOXIC PRINCIPLE: Phytolaccine.

SYMPTOMS: Vomiting and diarrhoea, about two hours after eating. Convulsions, difficulty in breathing. Death can follow from paralysis of respiratory organs.



Inkweed

IRIS

BOTANICAL NAME: *Iris* spp.

DESCRIPTION: Plants with rhizomes or bulbs. Leaves sword-shaped, mid-green. Tall flower stalks with various iris-type flowers, according to species.

POISONOUS PARTS: Rhizomes and bulbs. (Sometimes mistaken for onions, garlic or artichoke.)

TOXIC PRINCIPLE: Iridin.

SYMPTOMS: Nausea, violent diarrhoea, and abdominal burning.

JERUSALEM CHERRY (or winter cherry)

BOTANICAL NAME: *Solanum pseudocapsicum* and *S. capsicastrum*.

DESCRIPTION: Both small branching evergreen shrubs. Leaves pointed and mid-green. Flowers white and star-like. Berries round, green, ripening to bright shiny orange. *S. capsicastrum* has fine hairs at ends of twigs.



Jerusalem cherry

POISONOUS PARTS: All parts, particularly berries.

TOXIC PRINCIPLE: Solanocapsine.

SYMPTOMS: Irritation and direct slowing action of heart. Nausea, abdominal pain, vomiting, diarrhoea, dryness of mouth, dilated pupils.

KARAKA

BOTANICAL NAME: *Cornycarpus laevigatus*.

DESCRIPTION: New Zealand native tree, with shiny dark green leaves. Flower small, green. Fruit club-shaped, bright orange when ripe. Kernel coated with fibre.

POISONOUS PARTS: Kernels of the fruit.

TOXIC PRINCIPLE: Karakin.

SYMPTOMS: Convulsions and excitement, vomiting and exhaustion.



Karaka

KOWHAI

BOTANICAL NAME: *Sophora microphylla*.

DESCRIPTION: Small tree, native of New Zealand. Leaves compound, leaflets small, almost round, greyish-green. Flowers yellow and drooping.

POISONOUS PARTS: All parts, mainly seeds.

TOXIC PRINCIPLE: Cytisine.

SYMPTOMS: Diarrhoea and abdominal pains.

LABURNUM (golden chain tree)

BOTANICAL NAME: *Laburnum anagyroides*.

DESCRIPTION: Small tree. Leaves oval and mid-green. Flowers yellow, hanging in long grape-like clusters. Seed pods long and pale brown, seeds black.

POISONOUS PARTS: All parts, especially seeds.

TOXIC PRINCIPLE: Cytisine.

SYMPTOMS: Burning in mouth and stomach, nausea, severe vomiting, diarrhoea, prostration, irregular pulse and breathing, delirium, twitching, and unconsciousness.



Laburnum

LANTANA

BOTANICAL NAME: *Lantana camara*.

DESCRIPTION: A creeping shrub, stems prickly, leaves with toothed margins. Flowers in clusters, various colours. Fruit, a drupe, borne in clusters, initially green, ripening to deep purple or black.



Lantana

POISONOUS PARTS: Fruits.

TOXIC PRINCIPLE: Not known.

SYMPTOMS: Vomiting and diarrhoea, with weakness and tendency to haemorrhage. In acute cases the skin becomes over-sensitive to sunlight. With some people this plant causes skin irritation on contact.

LARKSPUR

BOTANICAL NAME: *Delphinium* spp.

DESCRIPTION: Low growing annuals. Leaves mid-green, spatulate. Flower stems up to 3 ft high, with blue flowers opening consecutively up the stem.

POISONOUS PARTS: All parts.

TOXIC PRINCIPLE: Delphinine.

SYMPTOMS: Tingling or burning sensation of mouth or skin, nausea, vomiting, diarrhoea, restlessness, weak pulse, convulsions.

LILY-OF-THE-VALLEY

BOTANICAL NAME: *Convallaria majalis*.

DESCRIPTION: Low growing from rhizomes. Leaves mid-green. Flowers bell-like, white, sweet smelling, several on a stalk.

POISONOUS PARTS: All parts, especially seeds.

TOXIC PRINCIPLE: Convallamarin, convallarin.

SYMPTOMS: Vomiting and diarrhoea, slowing action on the heart and breathing.

MILKWEED (Spurge)

BOTANICAL NAME: *Euphorbia peplus*.

DESCRIPTION: A common weed. Up to 18 in. tall but usually smaller. Soft, pale green oval leaves, flowers a greenish yellow.

POISONOUS PARTS: Fruits and leaves.

TOXIC PRINCIPLE: Euphorbin.

SYMPTOMS: Irritation of the mouth, salivation, vomiting, and diarrhoea.

NGAIO

BOTANICAL NAME: *Myoporum laetum*.



Ngaio

DESCRIPTION: Shrub or small native tree, up to 25 ft tall. Leaves sticky in the bud, up to 4 in. long, green smooth, studded with tiny pale glands. Flowers in clusters, white spotted with purple. Fruit an oblong drupe, reddish purple, succulent.

POISONOUS PARTS: Leaves and fruit, and all green parts.

TOXIC PRINCIPLE: Ngaione.

SYMPTOMS: Vomiting and diarrhoea.

NIGHTSHADE

A. BLACK NIGHTSHADE

BOTANICAL NAME: *Solanum nigrum*.

DESCRIPTION: A very common weed, both in gardens and waste lands. Grows up to 3 ft high with spreading habit, branched leafy stems. Leaves dark green and ovate. Flowers small and white. Berries globular, green, ripening to black.

POISONOUS PARTS: Leaves and unripe berries.

TOXIC PRINCIPLE: Solmargine.

SYMPTOMS: Abdominal pain, nausea, vomiting, diarrhoea, and depression. Loss of speech, convulsion, dilation of pupils, dryness of mouth, thirst, incoordination, delirium.

B. DEADLY NIGHTSHADE

BOTANICAL NAME: *Atropa belladonna*.

DESCRIPTION: A leafy shrub-like plant. Found occasionally in the northern areas, rare elsewhere. Leaves dull green. Flowers solitary pale purplish-blue. Fruit, a green berry ripening to black.

POISONOUS PARTS: All parts highly toxic.

TOXIC PRINCIPLE: Atropine and hyoscine.

SYMPTOMS: Nausea, vomiting, diarrhoea, dryness of mouth, dilation of pupils, muscular weakness, stumbling and falling. Sometimes excitement and coma. Slowing of breathing, speeding of pulse. In severe cases blindness, complete incoordination of movements, decrease in temperature, coma and convulsions, followed by death.



Black Nightshade

OLEANDER

BOTANICAL NAME: *Nerium oleander*.

DESCRIPTION: Ornamental woody flowering shrub. Leaves long, pointed, and of a leathery texture. Flowers red, pink, or white. Grows up to 8 ft.

POISONOUS PARTS: All parts, especially the flowers and foliage.

TOXIC PRINCIPLE: Oleandrine.

SYMPTOMS: Headache, nausea, vomiting, diarrhoea, yellow vision, slow or irregular pulse.



Oleander

PEACH

BOTANICAL NAME: *Prunus persica*.

DESCRIPTION: Cultivated fruit tree.

POISONOUS PARTS: Raw kernels of the fruits.

TOXIC PRINCIPLE: Prussic acid.

SYMPTOMS: Stupor, paralysis and loss of coordination, respiratory difficulty, convulsions, sometimes coma.

POPPY

BOTANICAL NAME: *Papaver* spp. (Includes Iceland, Shirley, and Oriental poppies.)

DESCRIPTION: Some are cultivated garden plants, others grow in cultivated fields or waste areas but are not common.

POISONOUS PARTS: Unripe seed capsule.

TOXIC PRINCIPLE: Morphine, codeine, thebaine.

SYMPTOMS: Unconsciousness, pin-point pupils, slow shallow breathing.

PORO-PORO

BOTANICAL NAME: *Solanum aviculare* and *S. laciniatum*.

DESCRIPTION: Grows up to 7 ft. Stems green or purplish. Flowers lavender to blue-purple. Leaves dark green, prominently veined, sometimes lobed. Fruit a green berry ripening to orange.

POISONOUS PARTS: Leaves and unripe berries.

TOXIC PRINCIPLE: Solasonine.

SYMPTOMS: Abdominal pain, vomiting, diarrhoea, and depression.

POTATO

BOTANICAL NAME: *Solanum tuberosum*.

DESCRIPTION: Cultivated tuberous plant, used for food. Plant above ground has soft green stems, spreading growth. Flowers small, white, star-shaped. Fruit a small globular green berry.

POISONOUS PARTS: Berries and tubers greened by sunlight.

TOXIC PRINCIPLE: Solasonine.

SYMPTOMS: Depression, loss of appetite, sleepiness, rise in temperature, nausea, vomiting, diarrhoea, dryness of mouth, dilation of pupils.

PRIVET

BOTANICAL NAME: *Ligustrum vulgare*.

DESCRIPTION: Evergreen shrub, often used as a hedge. Dark green leaves, small white flowers, fruit a black berry-like drupe.

POISONOUS PARTS: Fruit and leaves.

TOXIC PRINCIPLE: Ligustrin, ligustron, syringin.

SYMPTOMS: Vomiting and diarrhoea. Fall in blood pressure.

RANGIORA

BOTANICAL NAME: *Brachyglottis repanda*.

DESCRIPTION: Native shrub, spreading habit. Stems greyish. Leaves large, oval, pale soft green with white on the underside. Flowers in large drooping clusters.

POISONOUS PARTS: All parts, especially flowers and gum.

TOXIC PRINCIPLE: Not known.

SYMPTOMS: Loss of coordination, staggering, stupor.



Rangiora

RHUBARB

BOTANICAL NAME: *Rheum* spp.

DESCRIPTION: Cultivated garden plant. Stalks reddish, leaves large, mid-green, coarsely toothed, pointed at tip.

POISONOUS PARTS: Leaves.

TOXIC PRINCIPLE: Oxalic acid, rheonilic acid, chrysarobin.

SYMPTOMS: Nausea, vomiting, diarrhoea, abdominal pain, reduced urine formation, and haemorrhages.

SPANISH BROOM

BOTANICAL NAME: *Spartium junceum*.

DESCRIPTION: Erect ornamental flowering shrub. Stems green, leaves tube-like. Flowers yellow.

POISONOUS PARTS: Seeds and leaves.

TOXIC PRINCIPLE: Sparteine.

SYMPTOMS: Weak pulse, intestinal paralysis, weakness, fall in blood pressure.

SPINDLE BERRY

BOTANICAL NAME: *Euonymus europaea*.

DESCRIPTION: A cultivated decorative shrub or small tree. Deciduous. Leaves oval and pointed, green. Fruits bright pink, splitting open to show small pointed bright orange seeds.

POISONOUS PARTS: Fruits and leaves.

TOXIC PRINCIPLE: Euonymin.

SYMPTOMS: Nausea, vomiting, diarrhoea, weakness, chills, coma, and convulsions.

TARO (ornamental)

BOTANICAL NAME: *Colocasia antiquorum*.

DESCRIPTION: Fleshy-leaved, cultivated plant with thick rhizomes.

POISONOUS PARTS: All parts.

TOXIC PRINCIPLE: Prussic acid.

SYMPTOMS: Burning of the mouth and throat. Large doses may cause vomiting and diarrhoea.

THORN APPLE

BOTANICAL NAME: *Datura stramonium*.

DESCRIPTION: Strong growing annual herb, up to 5 ft high. Leaves irregularly toothed. Flowers solitary, funnel-shaped, white. Seed capsules round and prickly. Seeds brown and kidney-shaped.

POISONOUS PARTS: All parts, especially leaves, seeds, and nectar.

TOXIC PRINCIPLE: Atropine, hyoscine, hyoscyamine.

SYMPTOMS: Delirium, fast pulse, fever, thirst, incoordination, dilated pupils, rarely paralysis and tetanoid spasms.

TUTU

BOTANICAL NAME: *Coriaria* spp.

DESCRIPTION: Native low-growing shrubs; one species is a small tree. Leaves dark green, oval and pointed at tip with rounded base. Flowers small and green. Fruit purplish-black, enclosed by juicy enlarged petals. New growth shoots from base of tree look like over-large asparagus.

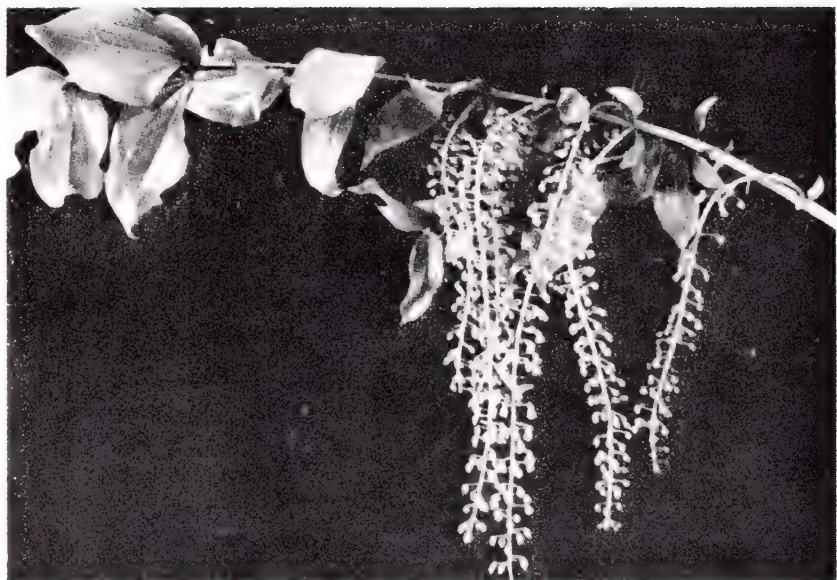
POISONOUS PARTS: All parts except the soft black persistent petals. Also honey from bees working on honeydew from sap.

TOXIC PRINCIPLE: Tutin (allied to picrotoxin group).

SYMPTOMS: Convulsions and excitement, vomiting and exhaustion.



Tutu



Tutu flower

WHITE CEDAR

BOTANICAL NAME: *Melia azederach*.

DESCRIPTION: Cultivated deciduous tree, with thick furrowed bark. Flowers purplish and sweet-scented. Fruit small and yellow.

POISONOUS PARTS: Fruit.

TOXIC PRINCIPLE: Azaridine.

SYMPTOMS: Complete paralysis, nausea, irregular respiration, and marked symptoms of suffocation.

YEW

BOTANICAL NAME: *Taxus baccata*.

DESCRIPTION: Evergreen tree, slim upright growth. Leaves dark green, narrow, pointed, and small. Berries small, round, red. Seeds ellipsoid, brown, $\frac{1}{4}$ in. long.

POISONOUS PARTS: All parts.

TOXIC PRINCIPLE: Taxine, oil of yew, formic acid.

SYMPTOMS: Rise in temperature and excitement.



Part II

TOUCH IRRITANTS

There is scarcely a plant to which some person is not allergic. This means that the field of touch irritants can be almost unlimited, so, for the purposes of this pamphlet, only the main irritants will be included.

CHRYSANTHEMUM

BOTANICAL NAME: *Chrysanthemum* spp.

DESCRIPTION: Herbaceous perennial plant. Flowers varied in size and type – all colours except blue.

POISONOUS PARTS: All parts.

TOXIC PRINCIPLE: Not known.

SYMPTOMS: People with sensitive skin get a weeping skin irritation.

TREATMENT: Wash skin thoroughly with soap and water after contact with plant. Avoid contact where possible when allergy has been noticed.

ENGLISH IVY

BOTANICAL NAME: *Hedera helix*.

DESCRIPTION: Evergreen climbing and trailing plant. Leaves dark shiny green with three pointed lobes.

POISONOUS PARTS: All parts to people who are sensitive to this plant.

TOXIC PRINCIPLE: Hederin.

SYMPTOMS: Irritation and swelling of part affected.

TREATMENT: Wash part thoroughly with soap and water. Avoid further contact. See a doctor.

ONGA-ONGA (tree nettle)

BOTANICAL NAME: *Urtica ferox*.

DESCRIPTION: A slender, much branched shrub up to 8 ft high, with spreading habit. Grows on the edge of, or in, damaged forest.

FACING PAGE:

Yew

Leaves pale green, oval, with pointed tip and finely serrated margins. Midrib and veins of leaves and both surfaces carry fine white hairs about $\frac{1}{8}$ in. long or more. These hairs also on leaf stalks and stem.

POISONOUS PARTS: Fine white stinging hairs, even on slight contact.

TOXIC PRINCIPLE: Acetylcholine type substance.

SYMPTOMS: Intense burning pain, redness, and swelling of affected part. If severe contact then follows loss of coordination and "grogginess", convulsions, blindness, shortage of breath. Death can occur in severe case.

TREATMENT: Get to medical help as rapidly as possible if contact is severe. Give artificial respiration and atropine intramuscularly. In minor cases calamine or an antihistamine preparation will ease the irritation and pain.

POISON IVY

BOTANICAL NAME: *Rhus toxicodendron*.

DESCRIPTION: Erect shrub, or vine climbing with aerial rootlets. Leaves glossy or dull green. Leaf edges sometimes toothed or lobed, 1 to 4 in. long. Flowers in drooping groups, five petals, green-yellow colour. Fruit small, white or cream, dry, almost round.

POISONOUS PARTS: All Parts.

TOXIC PRINCIPLE: Toxicodendrol.

SYMPTOMS: Severe irritation, reddening and blistering of the skin. Formation of pus possible. Intense swelling of the face, which may spread to other parts of the body.

TREATMENT: Wash well with soap and water and get medical help. Avoid future contact.

PRIMULA spp.

DESCRIPTION: Perennial flowering plants, including primrose, oxlip, auricula, Chinese primula, common garden species.

POISONOUS PARTS: All parts, including pollen.

TOXIC PRINCIPLE: Primin.

SYMPTOMS: Skin reddening with irritation, swelling, and blistering.

TREATMENT: Wash skin with methylated spirits after contact, and avoid future contact.

Part III

CLASSIFICATION OF TOXIC PRINCIPLES

A. ACTING ON THE BRAIN

I. NARCOTICS

Symptoms: Giddiness, dimness of sight, contracted pupils, headache, noises in the ears, confusion, drowsiness, loss of consciousness.

In this group:

Papaveraceae: Poppy family.

Iridaceae: Cape tulip.

II. DELIRIANTS

Symptoms: Spectral illusions, delirium, dilated pupils, thirst and dryness of mouth, incoordination, occasionally paralysis and tetanoid spasms.

In this group:

Solanaceae: Thorn apple, henbane, potato, bittersweet, black nightshade, deadly nightshade, apple of Sodom.

Compositae: Cape ivy.

III. INEBRIANTS

Symptoms: Excitement of cerebral function and of the circulation, loss of coordination, double vision, leading to profound sleep and coma.

In this group:

Compositae: Rangiora, Heketara.

IV. CONVULSANTS

Symptoms: Convulsions and excitement, vomiting and exhaustion.

In this group:

Coriariaceae: Tutu.

B. ACTING ON THE HEART

I. DEPRESSANTS

Symptoms: Vertigo, vomiting, abdominal pain, confused vision, convulsions, occasional delirium, paralysis, syncope, sometimes asphyxia.

In this group:

- Solanaceae: Boxthorn, Jerusalem cherry.
- Phytolaccaceae: Inkweed.
- Umbelliferae: Hemlock.
- Leguminosae: Broom.
- Ericaceae: Calico bush.
- Melanthaceae: White cedar.

II. ASTHENICS

Symptoms: Numbness and tingling in the mouth, abdominal pain, vertigo, vomiting, diarrhoea, tremor, occasional delirium, paralysis, dyspnoea, ending in syncope.

In this group:

- Rosaceae: Apricot, peach, cherry, cherry laurel.
- Ranunculaceae: Aconite, *Delphinium* spp.
- Scrophulariaceae: Foxglove.
- Liliaceae: Lily-of-the-Valley.
- Urticaceae: Onga-onga.
- Apocynaceae: Oleander.

C. IRRITANT POISONS

I. PURGATIVES

Symptoms: Abdominal pain, vomiting and diarrhoea, cramps, strangury and tenesmus followed by collapse, and sometimes accompanied by drowsiness and slight nervous symptoms.

In this group:

- Ranunculaceae: Hellebore or winter rose.
- Euphorbiaceae: Castor-oil plant.
- Leguminosae: False acacia, Kowhai.
- Verbenaceae: Lantana.

II. IRRITANTS WITH NERVE SYMPTOMS

Symptoms: Abdominal pain, vomiting and diarrhoea, dilated pupils, tetanic spasms, occasional convulsions, sometimes rapid coma.

In this group:

- Coniferae: Yew.
- Euphorbiaceae: Milkweed.
- Buxaceae: Box.
- Leguminosae: Laburnum.
- Hippocastanaceae: Horse chestnut.

III. SIMPLE IRRITANTS

Symptoms: Burning pain in throat and stomach, thirst, nausea, vomiting, tenesmus, diarrhoea, dysuria, dyspnoea and cough occasionally, death can occur through shock, convulsions, exhaustion.

In this group:

Araceae: Arum, Taro.

Thymelaeaceae: *Daphne* spp.

Amaryllidaceae: *Narcissus* spp.

Ranunculaceae: Buttercup.

Oleaceae: Privet.

Celastraceae: Spindleberry.

Iridaceae: Iris.

Polygonaceae: Rhubarb.

Anacardiaceae: Poison ivy.

Solanaceae: Cestrum, Poro-poro.

Myoporaceae: Ngaio.

Fagaceae: Beech.

Aquifoliaceae: Holly.

Corynocarpaceae: Karaka.

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Pamphlet No. 147
Issued free by the New Zealand
Department of Health.